

## Claims

What is claimed is:

- 5           1. A method for spreading data, the method comprising the steps of:  
determining a transmission rate;  
determining a spreading code, wherein the spreading code has a  
length based on the transmission rate; and  
spreading data with the spreading code.
- 10           2. The method of claim 1 wherein the step of determining the spreading  
code comprises the step of determining the spreading code, wherein the  
spreading code has a length and a value based upon the transmission rate.
- 15           3. The method of claim 1 wherein the step of determining the  
transmission rate comprises the step of determining a transmission rate  
wherein the transmission rate is taken from the group consisting of eighth,  
half, and full rate transmission.
- 20           4. The method of claim 1 wherein the step of spreading data with the  
spreading code comprises the step of exclusive OR'ing the data with the  
spreading code.
- 25           5. The method of claim 1 wherein the step of determining a  
transmission rate comprises the step of determining a voice coder (vocoder)  
transmission rate.
- 30           6. A method for despreading data, the method comprising the steps of:  
determining a transmission rate;  
determining a spreading code, wherein the spreading code has a  
length based upon the transmission rate; and  
despreading data with the spreading code.

7. The method of claim 6 wherein the step of determining the spreading code comprises the step of determining the spreading code, wherein the spreading code has a length and a value based upon the transmission rate.

5           8. The method of claim 6 wherein the step of determining the transmission rate comprises the step of determining a transmission rate wherein the transmission rate is taken from the group consisting of eighth, half, and full rate transmission.

10           9. The method of claim 6 wherein the step of despreading data with the spreading code comprises the step of exclusive OR'ing the data with the spreading code.

15           10. The method of claim 6 wherein the step of determining the transmission rate comprises the step of determining a voice coder (vocoder) transmission rate.

20           11. An apparatus comprising:  
            a code generator outputting a spreading code, wherein the spreading  
            code has a length dependent upon a transmission rate; and  
            exclusive OR'ing circuitry having the spreading code and data as an  
            input, and outputting spread data.

25           12. The apparatus of claim 11 wherein the spreading code additionally has a value dependent upon the transmission rate.

            13. The apparatus of claim 11 wherein the transmission rate is taken from the group consisting of eighth rate, half rate, and full rate transmission.

30           14. The apparatus of claim 11 wherein the transmission rate is a voice coder (vocoder) transmission rate.

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15. An apparatus comprising:

a first despreader having data as an input and outputting the data exclusive OR'd with a first spreading code having a first value and a first length;

5 a second despreader having the data as an input and outputting the data exclusive OR'd with a second spreading code having a second value and a second length;

a first Viterbi decoder having the data exclusive OR'd with the first spreading code as an input and outputting decoding metrics to a rate  
10 determiner; and

a second Viterbi decoder having the data exclusive OR'd with the second spreading code as an input and outputting decoding metrics to the rate determiner.

15 16. The apparatus of claim 15 wherein the first despreader is a  $\frac{1}{2}$  rate despreader.

17. The apparatus of claim 16 wherein the second despreader is a  $\frac{1}{4}$  rate despreader.

20 18. The apparatus of claim 17 wherein the first Viterbi decoder is a  $\frac{1}{2}$  rate Viterbi decoder.

19. The apparatus of claim 15 wherein the second Viterbi decoder is a  
25  $\frac{1}{4}$  rate Viterbi decoder.

20. The apparatus of claim 15 wherein the rate determiner is a voice encoder (vocoder) rate determiner.

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a convolutional encoder having data as an input and outputting convolutionally encoded data; and

a symbol spreader having the convolutionally encoded data and a transmission rate as an input and outputting spread symbols, wherein the spread symbols are spread with a spreading code dependent upon the transmission rate.

10            a block interleaver having the spread symbols as an input and  
outputting interleaved spread symbols.

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24. The apparatus of claim 21 wherein the transmission rate is a voice coder (vocoder) transmission rate.